CLAIMS

What is claimed is:

1. A metallurgical structure comprising:

a passivation layer;

a via through said passivation layer extending to a metal line within said metallurgical structure;

a barrier layer lining said via;

a metal plug in said via above said barrier layer, said metal plug and said metal line comprising a same material; and

a solder bump formed on said metal plug.

2. The metallurgical structure in claim 1, wherein said same material comprises copper.

3. The metallurgical structure in claim 1, wherein said barrier layer comprises one or more layers of Ti, TiN, Ta, and TaN.

4. The metallurgical structure in claim 1, wherein said barrier layer and said metal plug prevent elements within said solder bump from diffusing to said metal line.

5. The metallurgical structure in claim 1, wherein said metal plug, said barrier layer and said passivation layer form a planar exterior surface of said metallurgical structure.

6. The metallurgical structure in claim 1, wherein said solder ball is in direct contact with said metal plug.

7. The metallurgical structure in claim 1, further comprising a second barrier layer above said metal plug and a second metal plug above said second barrier layer, said second metal plug being in direct contact with said solder ball.

8. An integrated circuit structure comprising:

internal components within an exterior covering;

a via extending through said exterior covering to said internal components;

a barrier layer lining said via;

a plug in said via above said barrier layer, said plug and said internal components comprising a same material; and

a connector formed on said plug.

9. The integrated circuit structure in claim 8, wherein said same material comprises copper.

10. The integrated circuit structure in claim 8, wherein said barrier layer comprises one or more layers of Ti, TiN, Ta, and TaN.

11. The integrated circuit structure in claim 8, wherein said barrier layer and said plug prevent elements within said connector from diffusing to said components.

12. The integrated circuit structure in claim 8, said plug, said barrier layer and said exterior covering form a planar exterior surface of said integrated circuit structure.

13. The integrated circuit structure in claim 8, wherein said connector is in direct contact with said plug.

14. The integrated circuit structure in claim 8, further comprising a second barrier layer above said plug and a second plug above said second barrier layer, said second plug being in direct contact with said connector.

15. A method of forming an integrated circuit structure comprising:

forming a via through an exterior of said integrated circuit structure to internal components of said integrated circuit structure;

lining said via with a barrier layer;

forming a plug above said barrier layer, said plug and said internal components comprising a same material; and

forming a connector on said plug.

16. The method in claim 15, wherein said same material comprises copper.

17. The method in claim 15, wherein said barrier layer comprises one or more layers of Ti, TiN, Ta, and TaN.

18. The method in claim 15, wherein said barrier layer prevents elements within said connector from diffusing to said internal components.

19. The method in claim 15, further comprising polishing said integrated circuit structure such that said plug, said barrier layer and said exterior form a planar surface.

20. The method in claim 15, wherein said connector is formed to be in direct contact with said plug.

21. The method in claim 15, further comprising forming a second barrier layer above said plug and forming a second plug above said second barrier layer, such that said second plug is in direct contact with said connector.